

## C&D Waste Diversion and Reuse

### **Meeting Your Executive Order 13514 Goals Best Practices, Tools, and Resources**

July 27, 2011 10 a.m. - 12 p.m.

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### **Federal Requirements**

- Executive Order (EO) 13514
  - 2(e)(iii): Promote pollution prevention and eliminate waste by diverting at least 50 percent of construction and demolition (C&D) materials and debris by the end of fiscal year (FY) 2015
- Guiding Principles for High-Performance Sustainable Buildings
  - During a project's planning stage, identify local recycling and salvage operations that could process site-related C&D materials
  - During construction, recycle or salvage at least 50 percent of the non-hazardous construction, demolition, and land clearing materials, excluding soil, where markets or onsite recycling opportunities exist
  - Provide salvage, reuse, and recycling services for waste generated from major renovations, where markets or onsite recycling opportunities exist

### **C&D** Waste Diversion and Recycling

Salvaging, reusing, and recycling C&D material is required for all federal renovation, demolition, and construction projects. To get it done:

- Get your documents right: Architecture and Engineering (A&E)
  Statement of Work, Construction Specifications, Solicitation for Offers language
- Clearly delineate responsible parties for C&D data collection and reporting: A&E, LEED® Consultant, Owner, Contractor
- Develop a construction waste management plan
- Instruct onsite contractors and subcontractors
- Establish and clearly identify onsite C&D material collection and storage locations



 Require a C&D waste report documenting collection methods, material types, recovered weight, and recipient(s) of the material

### **Construction Waste Management Plan**

### A construction waste management plan generally covers:

- Materials collected (types, weight/volume)
- Collection methods and material management (e.g., onsite sorting or commingling; onsite processing [compacting, crushing, baling])
- Material disposition (receivers of materials)
- Designation of responsible parties for C&D data collection and reporting process
- Reporting frequency (e.g., monthly)
- Education of and signage for contractors and subcontractors
- Compliance monitoring



### **Data Collection and Recordkeeping**

## Maintain verifiable records to support Executive Order compliance reporting and LEED submissions:

- Designate a C&D waste data coordinator
- Identify collection and salvaging methods
- Record:
  - Materials recovered, by waste stream
  - Material disposition (receivers of materials)
  - Quantities of each waste stream diverted/recycled
  - Quantities of non-diverted/non-recycled materials
- Keep data reporting current (e.g., monthly)
- Maintain verification of performance (e.g., bills of lading, tipping receipts)
- Consider C&D waste tracking software



## **Waste Tracking Software**

Waste tracking software is available



### **Example Metrics**

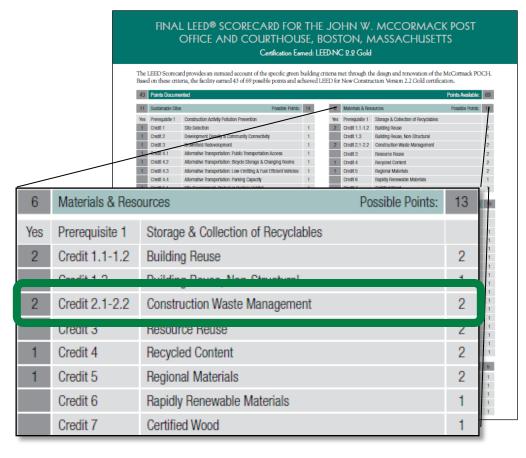
 Biology Wing Renovation (2010-2011) at EPA's Region 10 Laboratory, Manchester, WA

Waste Stream	Weight (tons)	Monies (\$) + = profit - = cost
Salvaged waste	27.06	+ \$4,844.75
Recycled waste	11.09	- \$325.11
Landfilled waste	32.34	- \$3,326.85
TOTAL	70.49	+ \$1,192.79

- C&D Waste Diversion Rate = <u>Salvaged + Recycled</u> = 54%
  Total Waste
- Cost of \$4,372.41 if all waste had been landfilled

# Successful C&D Waste Diversion Helps with LEED

- Renovation of McCormack Post Office and Courthouse achieved a C&D waste diversion rate greater than 75 percent
- Earned 2 credits under LEED for New Construction





### Salvage/Deconstruction Considerations

- Deconstruct to salvage items of value such as:
  - Historic components
  - Architectural details
  - Old growth hardwood windows and doors
  - Working HVAC equipment
- Net out value of salvage from demolition/deconstruction contract



### Salvage/Deconstruction Considerations

- Follow the legal requirements for the disposition of federal assets
  - Under the Federal Property & Administrative Services Act, property can be:
    - Transferred from one agency to another
    - Excessed via discount conveyance to state and local governments for public benefits
    - Sold via negotiated sale to state and local governments
    - Sold to the public via competitive sales
    - Donated to a charitable organization (e.g., Habitat ReStore)



### Universal and Hazardous C&D Wastes

- Demolition might require special handling of universal and hazardous wastes (RCRA 40 CFR 260-280 and TSCA 40 CFR 761)
  - Asbestos
  - Lead-based paint
  - Mercury-containing ballasts, thermometers, and switches
  - PCB-containing components (e.g., switches, capacitors, transformers, fluorescent lamp ballasts)
  - Used solvents
  - Fluorescent lamps (whole or broken)
  - Underground storage tanks



### **C&D** Waste Diversion Tools

- Construction Waste Management Plan GSA Boston, McCormack Post
   Office and Courthouse
- EPA A&E Guidelines EPA policy and standards for architects/engineers for the design and construction of EPA facilities
- GSA Solicitation for Offers C&D excerpts
- EPA Best Practice (Environmental) Lease Provisions C&D excerpts to be used in GSA space acquisitions for EPA
- EPA Renovations and Alterations Guidelines Sustainable renovations and alterations standards for use after initial construction/build-out in the ongoing operations and maintenance contracts of facilities



### Other Resources

#### **EPA Construction and Demolition Materials Website**

(http://www.epa.gov/wastes/conserve/rrr/imr/cdm/index.htm)

### **GSA Property Disposal Resource Center**

(https://extportal.pbs.gsa.gov/ResourceCenter/content/home.do)

Contact: Laura McGinnis, <a href="mailto:laura.mcginnis@gsa.gov">laura.mcginnis@gsa.gov</a>, 816-823-5355



### **Questions?**

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